

Buildings with glass facades consume 10 times more power: IISc study



Bengaluru: Power consumption in buildings with a glass facade is 10 times higher, a study conducted by researchers at the Indian Institute of Science (IISc) has found.

One of its findings is that 24 civic wards in South East Bengaluru consume more electricity – more than 4000 kWh per person per year. This is mainly due to the presence in these wards of information technology and biotechnology companies and high-rise apartments, which tend to have glass facades.

Glass facades increase the temperature inside a building, due to which the residents use air-conditioners and fans, explained Dr T V Ramachandra, one of the researchers involved in the study.

“The greater consumption of electricity by such buildings leads to higher emission of greenhouse gases, thereby increasing the carbon footprint,” he said.

Adoption of architecture more suitable to a temperate climates is mainly to blame for this. “Glass-facade architecture is suitable for temperate climates. It makes the temperature inside a building is warmer. It is not apt for Indian cities like Chennai, Bengaluru and Hyderabad.”

The study found that relaxation of the floor area ratio (FAR) in mid-2005 led to a mushrooming of high-rise buildings in residential and commercial sectors. The researchers found that there was higher energy consumption in nuclear families and buildings with higher FAR.

Per capita electricity consumption in zones dominated by high-rise buildings with glass facades ranged from 14,000 to 17,000 kwh per year compared to zones with eco-friendly buildings where consumption tended to be the range of 1,300-1,500 units/person/year.
